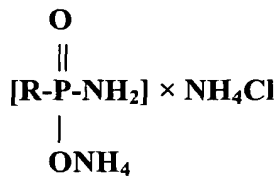
CLAIMS:

1. Complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of formula (I)

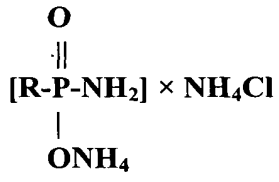


where R is the alkyl radical C-1-3.

2. Complex compound in accordance with Claim 1, in which there are about 1.8 molecules of ammonium chloride to one molecule of ammonia salt of amide of alkylphosphonic acid.

3. Process for producing a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula (I), consisting of the interaction of dichloroanhydride of alkylphosphonic acid with gaseous ammonia in a medium of organic solvent at temperature 10-20°C.

4. Combustion retardant for polymer materials, consisting of a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of formula (I)



where R is the alkyl radical C-1-3.

5. Combustion retardant in accordance with Claim 4, in which there are about 1.8 molecules of ammonium chloride to one molecule of ammonia salt of amide of alkylphosphonic acid.

6. Combustion retardant in accordance with Claim 4 or 5, *characterised* in that it is microencapsulated in a polymer shell.

7. Combustion retardant in accordance with Claim 6, *characterised* in that the said polymer shell is made of polyethylene.

8. Combustion retardant in accordance with Claim 6, *characterised* in that the said polymer shell is made of polyorganosiloxanes.

9. Combustion retardant in accordance with Claim 8, *characterised* in that the polyorganosiloxanes are selected from a group including polyvinylmethyldiethoxy-siloxane and polyaminopropylethoxysiloxane.

10. Process for producing low fire risk polymer materials by the introduction of the CR into the polymer in the course of its processing, *characterised* in that the CR used is a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula (I).

11. Process for producing low fire risk polymer materials in accordance with Claim 10, *characterised* in that it includes the following sequence of operations:
- joint extrusion of the said combustion retardant with the polymer;
- moulding the polymer fibre;
- granulation.

12. Process for producing low fire risk polymer materials in accordance with Claim 10, *characterised* in that it includes the following sequence of operations:
- mixing of the said combustion retardant with the polymer composition;
- rolling the mass;
- pressing the articles.

13. Process in accordance with any of Claims 10-12, *characterised* in that the combustion retardant is first microencapsulated in a polymer shell.

14. Process in accordance with Claim 13, *characterised* in that the size of the microcapsules is 5-25 μm.

15. Process in accordance with Claim 13, *characterised* in that the polymer shell is made of polyethylene with shell content including 10-15 wt.% of combustion retardant.

16. Process in accordance with Claim 13, *characterised* in that polyorganosiloxanes are used for the polymer shell.

17. Process in accordance with Claim 16, *characterised* in that the polyorganosiloxane consists of polymethyldiethoxysiloxanes with shell containing 2-5 wt.% of combustion retardant.

18. Process in accordance with Claim 16, *characterised* in that the polyorganosiloxane used is polyaminopropylethoxysiloxane, with shell containing 2-5 wt.% of combustion retardant.

19. Process in accordance with any of Claims 10-18, *characterised* in that polyethylene, polypropylene and copolymers of various compositions based on them are processed.

20. Process in accordance with any of Claims 10-18, *characterised* in that polystyrene and copolymers of various compositions based on it are processed.

21. Process for producing low fire risk polymer materials by the introduction of combustion retardant into the polymer, *characterised* in that the combustion retardant used is a complex compound of ammonia salt of amide of alkylphosphonic acid with

ammonium chloride of Formula (I), which is introduced into the polymer composition before it sets.

22. Process in accordance with Claim 21, *characterised* in that a filler is introduced into the polymer composition along with the said combustion retardant, and as a result of the saturation of the filler with the setting polymer composition, low fire risk materials are produced.

23. Process in accordance with Claim 21 or 22, *characterised* in that polyesters are processed.

24. Process in accordance with Claim 21 or 22, *characterised* in that epoxy resins are processed.

25. Process for producing low fire risk polymer materials, *characterised* in that a complex compound of ammonia salt of amide of alkylphosphonic acid with ammonium chloride of Formula (I) is introduced into a polymer composition including synthetic rubber, after which it is rolled before the article is pressed.

26. Low fire risk polyethylene produced by a process in accordance with Claim 6.

27. Low fire risk polypropylene produced by a process in accordance with Claim 6.

28. Low fire risk polystyrene produced by a process in accordance with Claim 6.

29. Low fire risk copolymers based on polyethylene, polypropylene and polystyrene, produced by a process in accordance with Claim 6.

30. Low fire risk polyesters produced by a process in accordance with Claim 21.

31. Low fire risk epoxy resins produced by a process in accordance with Claim 21.

32. Low fire risk composition materials produced by a process in accordance with Claim 22.

33. Low fire risk synthetic rubbers produced by a process in accordance with Claim 25.

34. Low fire risk polycaproamide materials produced by a process in accordance with Claim 13.

35. Low fire risk polymethyl methacrylate compositions produced by a process in accordance with Claim 11.